

## [ Registration ]

### Binding Registration

Please register until **February 15th 2016** the latest

**Fax: +49 511 / 277-1650**

or

**E-Mail: [Veranstaltung@photonicnet.de](mailto:Veranstaltung@photonicnet.de)**

- I will attend the workshop
- I will participate at the get together

Name

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Company / Institution

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Address

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Postal Code, City

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Phone No.

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E-Mail

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Member of competence network OT

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Date / Signature

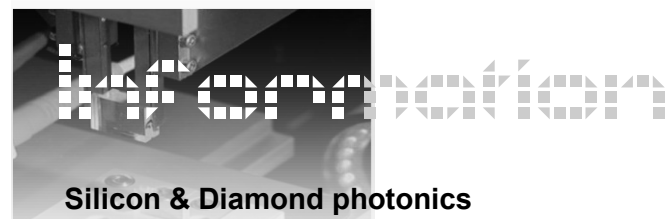
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### Venue:

Haus der Kulturen Braunschweig e.V.  
Am Nordbahnhof 1  
38106 Braunschweig

**PARTICIPATION FEE** (incl. evening event, plus tax 19%):

260,00 € per person  
210,00 € per person for Member of competence network OT  
150,00 € per student



## Silicon & Diamond photonics

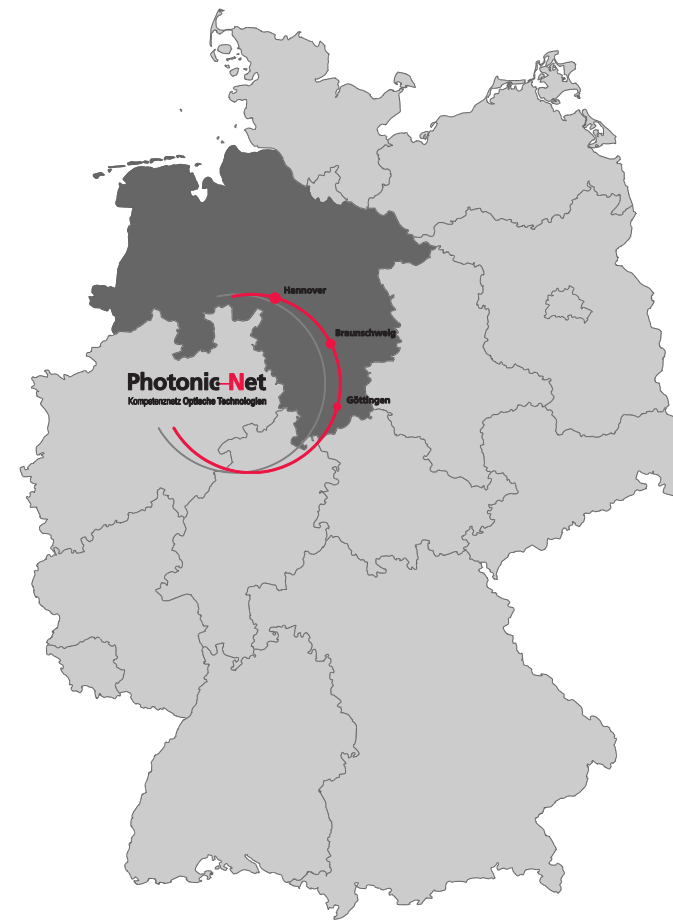
### [ 08.03.2016 ] Silicon photonics

Silicon is the material of choice for the microelectronics industry. However, recent developments of the engineering of the optical properties of silicon have made it a very interesting material for optical signal processing. Additionally, Silicon photonics is CMOS compatible which enables the possibility to exploit the mature technology of the microelectronics industry and to co-integrate optical and microelectronics processing. Thus, silicon integrated photonics could pave the way to very high-data rate and cheap optical transmitter and receiver modules for the mass market of the internet, data centers and even for chip-to-chip and on-chip communications. At the same time, the confinement of the waves and the mix with other materials have led to very interesting properties which enable integrated frequency combs, optical signal processing, strong reduction of the interaction length and a lot of other very new applications. We have assembled a fantastic programme of speakers who will give an overview and an insight into this very exciting field of research.

### [ 09.03.2016 ] Diamond Nanophotonics

Diamond – is this the material of the next decades? It possesses remarkable physical and chemical properties, high mechanical hardness, large Young's module and high thermal conductivity. But now it enters also the quantum optics' stage! Diamond is transparent from the ultraviolet to the infrared spectral range, has a high refractive index and it may contain a variety of defect centers. These properties make diamond a very interesting material for many applications, especially exciting is the field of quantum information and quantum optics. In the center of these modern applications are color centers, mainly nitrogen-vacancy and silicon-vacancy single centers suitable for single photon operation and manipulation.

In this workshop, top level presentations will be given on the fields of diamond wafer production, quantum optics in diamond, diamond nanostructures, diamond and metrology, integration of defect centers in diamond, light and matter interactions and the interfacing of color centers in diamond.



### [ Organisation ]

### PhotonicNet GmbH

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### [ In co-operation with ]



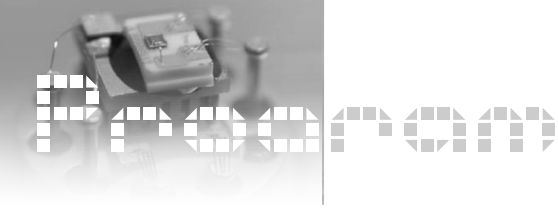
## Photonic-Net

Kompetenznetz Optische Technologien



## Silicon & Diamond photonics

[ Brunswick, March 08th & 09th 2016 ]



# Brunswick, 08. – 09. March 2016



## [ 08.03.2016 ] Silicon photonics

**Welcome** **10:00 hrs**  
Thomas Fahlbusch, PhotonicNet GmbH  
Thomas Schneider  
Institut für Hochfrequenztechnik, TU-Braunschweig

**Silicon-Organic Hybrid -- a New Platform for Communications** **10:15 hrs**  
Juerg Leuthold  
Institute of Electromagnetic Fields, ETH-Zürich, Switzerland

**Silicon-organic hybrid (SOH) integration and multi-chip systems: Extending the capabilities of the silicon photonic platform** **10:45 hrs**  
Christian Koos  
Karlsruher Institut für Technologie (KIT), Karlsruhe

**Coffee break** **11:15 hrs**

**Hybrid Chalcogenide-on-Silicon Photonic Devices** **11:45 hrs**  
Avi Zadok  
Bar-Ilan University , Ramat Gan, Israel

**Surface Brillouin scattering in optical microwires** **12:15 hrs**  
Thibaut Sylvestre  
Femto-ST SCIENCES & TECHNOLOGIES  
Besancon, France

**Lunch break** **12:45 hrs**

**Silicon Photonics Integrated Circuits** **13:45 hrs**  
Stefan Meister  
Institut für Optik und Atomare Physik, TU-Berlin

**Optical OFDM Demultiplexer in Silicon Photonics** **14:15 hrs**  
Christian Schaeffer  
Helmut Schmidt Universität, Hamburg

**Coffee break** **14:45 hrs**

**Performance Tradeoffs in reverse biased Silicon Modulators** **15:15 hrs**  
Kambiz Jamshidi  
Institut für Nachrichtentechnik, TU-Dresden

**"Silicon-on-Insulator integrated Nyquist pulse Transmitter" and Closing Remarks** **15:45 hrs**  
Thomas Schneider  
Institut für Hochfrequenztechnik, TU-Braunschweig

End of presentations on the first day **16:15 hrs**

**Evening event** **19:00 hrs**

**Get Together Dinner at Gastwerk, Brunswick**  
During a collective dinner there is the opportunity for a meet and greet.

## [ 09.03.2016 ] Diamond Nanophotonics

**Diamond Photonics: Interfacing color centers in diamond** **09:30 hrs**  
Christoph Becher  
Universität des Saarlandes, Saarbrücken

**Quantum optics in diamond** **10:00 hrs**  
Fedor Jelezko  
Universität Ulm

**Coffee break** **10:30 hrs**

**Scanning Probe imaging with color centers in diamond nanostructures** **11:00 hrs**  
Elke Neu  
Universität des Saarlandes

**Synthese einkristalliner Diamantwafer als Basismaterial für photonische Anwendungen** **11:30 hrs**  
Matthias Schreck  
Universität Augsburg

**Lunch break** **12:00 hrs**

**Controlling the interaction of light and matter at the level of single quanta** **13:00 hrs**  
Stephan Götzinger  
FA Universität Erlangen

**Single-photon sources based on impurity doped nanodiamond for metrological applications** **13:30 hrs**  
Stefan Kück  
Physikalisch-Technische Bundesanstalt Braunschweig

**Coffee break** **14:00 hrs**

**Challenges for an Integrated Quantum Optical Technology Based on Defect Centers in Diamond** **14:30 hrs**  
Oliver Benson  
Humboldt-Universität zu Berlin

**N.N** **15:00 hrs**  
N.n

Wrap up **15:30 hrs**